

Table 1.4-1 (Metric And English Units). EMISSION FACTORS FOR PARTICULATE MATTER (PM)  
FROM NATURAL GAS COMBUSTION<sup>a</sup>

Combustor Type (Size, 10 <sup>6</sup> Btu/hr Heat Input) (SCC) <sup>b</sup>	Filterable PM <sup>c</sup>			Condensable PM <sup>d</sup>		
	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING
Utility/large industrial boilers (>100) (1-01-006-01, 1-01-006-04)	16 - 80	1 - 5	B	ND	ND	NA
Small industrial boilers (10 - 100) (1-02-006-02)	99	6.2	B	120	7.5	D
Commercial boilers (0.3 - <10) (1-03-006-03)	72	4.5	C	120	7.5	C
Residential furnaces (<0.3) (No SCC)	2.8	0.18	C	180	11	D

<sup>a</sup> References 9-14. All factors represent uncontrolled emissions. Units are kg of pollutant/10<sup>6</sup> cubic meters natural gas fired and lb of pollutant/10<sup>6</sup> cubic feet natural gas fired. Based on an average natural gas higher heating value of 8270 kcal/m<sup>3</sup> (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

<sup>b</sup> SCC = Source Classification Code.

<sup>c</sup> Filterable PM is that particulate matter collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train.

<sup>d</sup> Condensable PM is that particulate matter collected using EPA Method 202, (or equivalent). Total PM is the sum of the filterable PM and condensable PM. All PM emissions can be assumed to be less than 10 micrometers in aerodynamic equivalent diameter (PM-10).

Table 1.4-2 (Metric And English Units). EMISSION FACTORS FOR SULFUR DIOXIDE (SO<sub>2</sub>), NITROGEN OXIDES (NO<sub>x</sub>), AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION<sup>a</sup>

Combustor Type (Size, 10 <sup>6</sup> Btu/hr Heat Input) (SCC) <sup>b</sup>	SO <sub>2</sub> <sup>c</sup>			NO <sub>x</sub> <sup>d</sup>			CO <sup>e</sup>		
	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING	kg/10 <sup>6</sup> m <sup>3</sup>	lb/10 <sup>6</sup> ft <sup>3</sup>	RATING
Utility/large Industrial Boilers (>100) (1-01-006-01, 1-01-006-04)									
Uncontrolled	9.6	0.6	A	8800	550 <sup>f</sup>	A	640	40	A
Controlled - Low NQ burners	9.6	0.6	A	1300	81 <sup>f</sup>	D	ND	ND	NA
Controlled - Flue gas recirculation	9.6	0.6	A	850	53 <sup>f</sup>	D	ND	ND	NA
Small Industrial Boilers (10 - 100) (1-02-006-02)									
Uncontrolled	9.6	0.6	A	2240	140	A	560	35	A
Controlled - Low NQ burners	9.6	0.6	A	1300		D	81 <sup>f</sup> 980	61	D
Controlled - Flue gas recirculation	9.6	0.6	A	480	30	C	590	37	C
Commercial Boilers (0.3 - <10) (1-03-006-03)									
Uncontrolled	9.6	0.6	A	1600	100	B	330	21	C
Controlled - Low NQ burners	9.6	0.6	A	270	17	C	236	15	C
Controlled - Flue gas recirculation	9.6	0.6	A	580	36	D	ND	ND	NA
Residential Furnaces (<0.3) (No SCC)									
Uncontrolled	9.6	0.6	A	1500	94	B	640	40	B

<sup>a</sup> Units are kg of pollutant/10<sup>6</sup> cubic meters natural gas fired and lb of pollutant/10<sup>6</sup> cubic feet natural gas fired. Based on an average natural gas fired higher heating value of 8270 kcal/m<sup>3</sup> (1000 Btu/scf). The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. ND = no data. NA = not applicable.

<sup>b</sup> SCC = Source Classification Code.

<sup>c</sup> Reference 7. Based on average sulfur content of natural gas, 4600 g/10<sup>6</sup> Nm<sup>3</sup> (2000 gr/10<sup>6</sup> scf).